NC/QC/ BW/2024-25/W1

Date: 08-05-2024

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Drilling of borewells & Providing pipe line and supply of drinking water to public in Harohalli, Nagenahalli, Kenchanahalli, Doddabettahalli, Chikkabettahalli and Ananthpura village areas in ward No 01 and Ward No 03 of Yelahanka Division.}
Ref.: Material testing/PMC/24-25,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri B.P MAHESH(M/S SRI SAI MANJUNATHA ENTREPRISES)

TEST RESULTS

1. Gradation Test:
Location : Doddbettahalli Main Rd

TABLE 1.1

Sample **WMM** = Total Weight of the Sample (gm) : 1000.00					
Sieve Size, mm	**Weight Retained (gm)**	**Cumulative Weight Retained (gm)**	**Cumulative % of Retained**	**Cumulative % of Passing**	**Specified Limits as per MoRTH Specifications, V Revision-2013**
53.00	0.00	0.00	0.00	**100.00**	100
45.00	29.00	29.00	2.90	**97.10**	95-100
26.50	---	---	---	---	-
22.40	202.00	231.00	23.10	**76.90**	60-80
11.20	209.00	440.00	44.00	**56.00**	40-60
4.75	220.00	660.00	66.00	**34.00**	25-40
2.36	108.00	768.00	76.80	**23.20**	15-30
0.600	134.00	902.00	90.20	**9.80**	8-22
0.075	89.00	991.00	99.10	**0.90**	0-5
Pan	9.00	1000.00	100.00	**0.00**	---

NEWZEN CONSULTANT ★ Bangalore ★

2. Properties of Aggregates:

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**28.28%**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**28.02%**	Not more than 35.0 %
3.	Water absorption, %	**0.44 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

The result of the materials tested meets the standards and hence can be used for the work

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ.
ಬಿ.ಡಬ್ಲ್ಯು.ಎಸ್.ಎಸ್.ಬಿ. ಬೆಂಗಳೂರು-೫೦೦

NEWZEN CONSULTANT ★ Bangalore ★

NC/QC/ BW/2024-25/ W2

Date: 09-05-2024

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Drilling of borewells & Providing pipe line and supply of drinking water to public in Harohalli, Nagenahalli, Kenchanahalli, Doddabettahalli, Chikkabettahalli and Ananthpura village areas in ward No 01 and Ward No 03 of Yelahanka Division.}
Ref.: Material testing/PMC/24-25,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri B.P MAHESH(M/S SRI SAI MANJUNATHA ENTREPRISES)

TEST RESULTS

1. Gradation Test:
Location : Ambha Bhavani Nagara 2nd Main Rd 2nd Cross

TABLE 1.1

Sample **WMM** = Total Weight of the Sample (gm) : 1060.00					
Sieve Size, mm	**Weight Retained (gm)**	**Cumulative Weight Retained (gm)**	**Cumulative % of Retained**	**Cumulative % of Passing**	**Specified Limits as per MoRTH Specifications, V Revision-2013**
53.00	0.00	0.00	0.00	**100.00**	100
45.00	22.00	22.00	2.08	**97.92**	95-100
26.50	---	---	---	---	-
22.40	236.00	258.00	24.34	**75.66**	60-80
11.20	200.00	458.00	43.21	**56.79**	40-60
4.75	249.00	707.00	66.70	**33.30**	25-40
2.36	125.00	832.00	78.49	**21.51**	15-30
0.600	121.00	953.00	89.91	**10.09**	8-22
0.075	97.00	1050.00	99.06	**0.94**	0-5
Pan	10.00	1060.00	100.00	**0.00**	---

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ.
ಬ.ಬ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-106

NEWZEN CONSULTANT Bangalore

2. Properties of Aggregates:

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.98%**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**29.31%**	Not more than 35.0 %
3.	Water absorption, %	**0.41 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

The result of the materials tested meets the standards and hence can be used for the work

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-106

NEWZEN CONSULTANT Bangalore

NC/QC/ BW/2024-25/ BB1 **Date: 13-05-2024**

1. TEST REPORT ON BITUMEN SAMPLE:

Sub: Testing of Bitumen sample VG-30 Grade.

{Project*: Drilling of borewells & Providing pipe line and supply of drinking water to public in Harohalli, Nagenahalli, Kenchanahalli, Doddabettahalli, Chikkabettahalli and Ananthpura village areas in ward No 01 and Ward No 03 of Yelahanka Division.}

Ref.: Material testing/PMC/24-25,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri B.P MAHESH(M/S SRI SAI MANJUNATHA ENTREPRISES)

Technical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

TABLE 1.1 ;

SL No	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
1.	Penetration at 25^0 C	**51.30^0 C**	Min. 45
2.	Ductility Value at 25^0 C	**109.0 cm**	40
3.	Flash point	**236^0 C**	Minimum 220^0 C
4.	Softening point	**50.40^0 C**	Min. 47

The result of the materials tested meets the standards and hence can be used for the work.

Ambha Bhavani Nagara 2nd Main Rd 2nd Cross

NEWZEN CONSULTANT Bangalore

NC/QC/ BW/2024-25/ CB1

Date: 13-05-2024

1. TEST REPORT ON COARSE AGGREGATE:

Sub: Testing of Coarse Aggregate used in Bituminous Concrete.
{Project*: Drilling of borewells & Providing pipe line and supply of drinking water to public in Harohalli, Nagenahalli, Kenchanahalli, Doddabettahalli, Chikkabettahalli and Ananthpura village areas in ward No 01 and Ward No 03 of Yelahanka Division.}
Ref.: Material testing/PMC/24-25,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri B.P MAHESH(M/S SRI SAI MANJUNATHA ENTREPRISES)

TABLE 1.1 ;

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**22.86 %**	Not more than 24.00 %
2.	Combined Flakiness and Elongation index, %	**27.51 %**	Not more than 35.0 %
3.	Water absorption, %	**0.42%**	Not more than 2.0 %
4.	Specific gravity	**2.62**	-------
5.	Soundness	**5.36%**	Max. 12 % in Sodium Sulphate

The result of the materials tested meets the standards and hence can be used for the work.

Ambha Bhavani Nagara 2nd Main Rd 2nd Cross

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ.
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-೫೬

NEWZEN CONSULTANT Bangalore

Viswaneedam Post,
080 23240187 EMAIL:newzen576@gmail.com

NC/QC/ BW/2024-25/ BC1 **Date: 14-05-2024**

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.
{Project*: Drilling of borewells & Providing pipe line and supply of drinking water to public in Harohalli, Nagenahalli, Kenchanahalli, Doddabettahalli, Chikkabettahalli and Ananthpura village areas in ward No 01 and Ward No 03 of Yelahanka Division.}

Ref.: Material testing/PMC/24-25,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri B.P MAHESH(M/S SRI SAI MANJUNATHA ENTREPRISES)

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**

Location: Ambha Bhavani Nagara 2nd Main Rd 2nd Cross

1. BITUMEN EXTRACTION TEST – BC

TABLE 1.1

Sl no.	Description	Index	C1
1	Weight of the Sample, gm	S1	510.00
2	Weight of the Sample After Extraction, gm	S2	482.00
3	Initial weight of Filter paper, gm	F1	4.20
4	Final weight of Filter paper, gm	F2	4.50
5	Difference in weight of Filter Paper, gm	F= F2-F1	0.30
6	Bitumen Content, %	$\frac{S1-S2+F}{S1} \times 100$	**5.55**

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-106

NEWZEN CONSULTANT Bangalore

080 23240187 EMAIL:newzen576@gmail.com

2. **Gradation Test** – Extraction Test

TABLE 2.1

Sample C1 **BC** = Total Weight of the Sample (gm) : 482.00					
Sieve Size, mm	**Weight Retained (gm)**	**Cumulative Weight Retained (gm)**	**Cumulative % of Retained**	**Cumulative % of Passing**	**Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)**
19.0	0.00	0.00	0.00	**100.00**	100
13.2	22.00	22.00	4.56	**95.44**	90-100
9.5	79.00	101.00	20.95	**79.05**	70-88
4.75	85.00	186.00	38.59	**61.41**	53-71
2.36	61.00	247.00	51.24	**48.76**	42-58
1.18	59.00	306.00	63.49	**36.51**	34-48
0.600	42.00	348.00	72.20	**27.80**	26-38
0.300	30.00	378.00	78.42	**21.58**	18-28
0.150	31.00	409.00	84.85	**15.15**	12-20
0.075	52.00	461.00	95.64	**4.36**	4-10
Pan	21.00	482.00	100.00	**0.00**	---

3. **Properties of BC (Gr-2) Mix** - Stability of Bituminous Mix

Sl. No.	**Test Property**	***Test results obtained by Marshall method**	**Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications**
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1318**	900
2	Marshall Flow at 60°C, mm.	**3.04**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work

NC/QC/ BW/2024-25/ BC2 **Date: 14-05-2024**

1.TEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.
{Project*: Drilling of borewells & Providing pipe line and supply of drinking water to public in Harohalli, Nagenahalli, Kenchanahalli, Doddabettahalli, Chikkabettahalli and Ananthpura village areas in ward No 01 and Ward No 03 of Yelahanka Division.}
Ref.: Material testing/PMC/24-25,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri B.P MAHESH(M/S SRI SAI MANJUNATHA ENTREPRISES)

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**
Location: Doddbettahalli Main Rd

1. BITUMEN EXTRACTION TEST – BC
TABLE 1.1

Sl no.	Description	Index	C1
1	Weight of the Sample, gm	S1	550.00
2	Weight of the Sample After Extraction, gm	S2	521.00
3	Initial weight of Filter paper, gm	F1	4.00
4	Final weight of Filter paper, gm	F2	4.80
5	Difference in weight of Filter Paper, gm	F= F2-F1	0.80
6	Bitumen Content, %	$\frac{S1-S2+F}{S1} \times 100$	5.42

NEWZEN CONSULTANT Bangalore

2. **Gradation Test** – Extraction Test

TABLE 2.1

Sample C1 **BC** = Total Weight of the Sample (gm) : 521.00					
Sieve Size, mm	**Weight Retained (gm)**	**Cumulative Weight Retained (gm)**	**Cumulative % of Retained**	**Cumulative % of Passing**	**Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)**
19.0	0.00	0.00	0.00	**100.00**	100
13.2	15.00	15.00	2.88	**97.12**	90-100
9.5	104.00	119.00	22.84	**77.16**	70-88
4.75	77.00	196.00	37.62	**62.38**	53-71
2.36	56.00	252.00	48.37	**51.63**	42-58
1.18	69.00	321.00	61.61	**38.39**	34-48
0.600	56.00	377.00	72.36	**27.64**	26-38
0.300	42.00	419.00	80.42	**19.58**	18-28
0.150	36.00	455.00	87.33	**12.67**	12-20
0.075	44.00	499.00	95.78	**4.22**	4-10
Pan	22.00	521.00	100.00	**0.00**	---

3. **Properties of BC (Gr-2) Mix** - Stability of Bituminous Mix

Sl. No.	**Test Property**	***Test results obtained by Marshall method**	**Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications**
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1296**	900
2	Marshall Flow at 60°C, mm.	**3.36**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ.
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-106

NEWZEN CONSULTANT Bangalore